



FEATURES

- Available for DVB-T standard
- MFN & SFN operations
- Compact design
- High energy efficiency to minimize consumption and OPEX
- High redundancy to ensure maximum reliability
- Natural convection or forced air cooling
- AGC and ALC circuits
- Remote control interface

Options:

- Transposer configuration
- Dual driver configuration
- GPS receiver for SFN synchronization
- 1Hz step local oscillator

DESCRIPTION

The DFX TITANIUM SERIES is a family of high-performance DVB-T transmitters capable of Multi Frequency Network (MFN) and Single Frequency Network (SFN) operations. This low/medium power series features easy operation and great flexibility in a compact design. UHF and VHF BI/BIII models are available with output power levels from 2.5W to 700W, depending on the frequency band.

The transmitter is based on the DX-UM exciter and DF power amplifier. The standard configuration also includes an output filter compliant with the emission mask requirements and a 19" standard rack cabinet.

The modular design provides great versatility thanks to several possible plug-in module configurations. It also facilitates maintenance and control procedures. The exciter, housed in a 3HE cabinet, integrates the COFDM modulator and can easily be programmed using the keypad and display on the front panel or via the USB port. A broadband power amplifier, based on the latest LDMOS technology, delivers high efficiency and reliable linear performance in a compact design. The PA has its own switching power supply and SWR, overtemperature, overdrive, overcurrent, and overvoltage protections. Each device is equipped with a multifunction LCD to monitor and control all the operating parameters and a remote control interface.

SIGNAL INPUTS

Multiplexed Transport Stream	188/204 bytes - ASI, BNC female, 75 Ω
Frequency reference	10 MHz Level: 0.1 - 3.3 Vpp BNC female, 50 Ω
Time reference	1 PPS, TTL level Trigger: falling or rising edge SMA male, 50 Ω

DVB-T SPECIFICATIONS

Standard	ETSI EN 300 744
Network mode supported	MFN & SFN (selectable)
Modulation	COFDM
TS Input Data Rate	Up to 31.67 Mbps
Carrier number	2K, 4K, 8K
Channel bandwidth	6 MHz, 7 MHz, 8 MHz
Code rate	FEC = 1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/32, 1/16, 1/8, 1/4
Constellation	QPSK, 16QAM, 64QAM
Hierarchical	$\alpha = 1, 2, 4$ for 16QAM and 64QAM
Spectrum polarity	Inverted or non-inverted
Configuration	Real-time through USB port

IF OUTPUT

Connector	2 x SMB male, 50 Ω
Center frequency adjustable	35 to 46 MHz with 0.1 Hz step
Spectrum polarity	Inverted or non-inverted
Level	-20 dBm to 0 dBm (adjustable)
Return loss	> 26 dB
Shoulder level	≤ -55 dBc
Harmonics and spurious	< 60 dB
MER	≥ 49 dB (typical)

RF OUTPUT

Frequency range	UHF: 470 - 860 MHz VHF bIII: 170 - 240 MHz VHF bI: 47 - 85 MHz
Frequency stability	± 1 ppm or externally synchronized with 10 MHz
MER	> 34 dB (typical)
Spurious emission outside channel	< -60 dB (with output filter)
Shoulder level	< -36 dB (with output filter)

CONTROL INTERFACES

Front panel	LCD display and function keys
USB	Type B connector
RS-232 serial port	9-pin SUB female connector
Communication protocol	USB: 115200 bps - 8 data bit - 1 stop bit - no parity - no flow ctrl RS-232: 2400 bps - 8 data bit - 1 stop bit - no parity - no flow ctrl

GENERAL

Power supply	230 VAC (110 VAC optional)
Operating temperature	-5 $^{\circ}$ C to +45 $^{\circ}$ C
Relative humidity	95 %, non-condensing
Cooling	Natural convection or forced air

BAND	MODEL	OUTPUT POWER (Pre-filter)	OUTPUT CONN.	POWER CONSUMPTION	SIZE
UHF	DFX-2/U-UM	2.5 W	N	35 W	12HE
	DFX-5/U-UM	5 W	N	80 W	12HE
	DFX-10/U-UM	10 W	N	130 W	12HE
	DFX-40/U-UM	50 W	N	350 W	12HE
	DFX-100/U-UM	130 W	N	900 W	21HE
	DFX-200/U-UM	250 W	DIN 7-16	1.7 KW	21HE
VHF bIII	DFX-400/U-UM	500 W	DIN 7-16	3.1 KW	21HE
	DFX-2/3-UM	2.5 W	N	35 W	12HE
	DFX-10/3-UM	10 W	N	95 W	12HE
	DFX-50/3-UM	50 W	N	400 W	12HE
	DFX-100/3-UM	180 W	N	800 W	21HE
	DFX-300/3-UM	350 W	DIN 7-16	1.5 KW	21HE
VHF bI	DFX-600/3-UM	700 W	DIN 7-16	3 KW	21HE
	DFX-2/1-UM	2.5 W	N	45 W	12HE
	DFX-10/1-UM	10 W	N	95 W	12HE
	DFX-50/1-UM	50 W	N	400 W	21HE
	DFX-100/1-UM	100 W	DIN 7-16	1 KW	21HE
	DFX-200/1-UM	200 W	DIN 7-16	1.9 KW	21HE